

Appl. No. 10/756,740
Amendment dated April 9, 2008
Reply to Office Action mailed January 9, 2008

IN THE CLAIMS:

Please cancel claim 7 and amend claims 1, 8, 23, 30, 35 and 39 as follows:

1. (Currently Amended) A treatment apparatus for excrement comprising

a reactor basin for containing sawdust and excrement, provided with at least two concave parts having curved profile on the bottom;

a temperature control means for maintaining the temperature within said reactor basin at a predetermined range, and

at least two mixing devices for mixing the sawdust and excrement, matched with each concave parts and spaced apart from each other, each of which respectively has

a rotation shaft, and

a helical blade stirrer, provided on said rotation shaft by a plurality of spokes and divided into two parts, helical directions of which are reverse, wherein said helical blade stirrers of the mixing devices are overlapped partially; and

wherein pluvimixing rings are respectively provided at outer sides of each helical blade stirrer, on which a plurality of blocks for loosening are provided.

2-4. (Cancelled)

5. (Previously Presented) The treatment apparatus for excrement of claim 1, wherein a protuberant intersection is formed at a height which is lower than that of the rotation shaft after said two concave parts in the bottom of said basin are connected.

6. (Previously Presented) The treatment apparatus for excrement of claim 5, wherein the curves of the concave parts are substantively spaced evenly with said mixing device.

7. (Cancelled)

8. (Currently Amended) The treatment apparatus of claim 1, wherein a top plate is provided to cover said reactor basin, having

a drop inlet;

a urinary inlet, spaced apart from the drop inlet, and

a conduit, arranged at an underside of the top plate, an inlet of which is communicated with said urinary inlet and the outlet of which is adjacent to said drop inlet so as to guide urine to the place where excrement drops.

9-11. (Cancelled)

12. (Previously Presented) A bio-toilet, being divided into two spaces by a floor, wherein the space under the floor is provided with

a tank, the top plate of which having a drop inlet and a urinary inlet, spaced apart from the drop inlet;

a reactor basin for containing sawdust and excrement, provided with at least two concave parts having curved profile on the bottom;

a temperature control means for maintaining the temperature within said reactor basin at a predetermined range, provided with

a heating plate, disposed on the outer surface of the reaction basin, and

a insulation layer, covered the heating plate;

at least two mixing devices for mixing the sawdust and excrement, matched with each concave parts, and spaced apart each other, each of which respectively has

a rotation shaft, and

a helical blade stirrer, provided on said rotation shaft by a plurality of spokes and divided into two parts, helical directions of which are reverse, wherein said helical blade stirrers of the mixing devices are overlapped partially;

a driving means provided outside the tank for driving the two mixing devices; and

a control unit.

13-14. (Cancelled)

15. (Previously Presented) The bio-toilet of claim 12, wherein pluvimixing rings are respectively provided at outer sides of each helical blade stirrer, on which a plurality of blocks for loosening are provided.

16. (Previously Presented) The bio-toilet of claim 15, wherein a protuberant intersection is formed at a height which is lower than that of the rotation shaft after said two concave parts in the bottom are connected.

17. (Previously Presented) The bio-toilet of claim 16, wherein, wherein the curves of the concave parts are substantively spaced evenly with said mixing device.

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18. (Previously Presented) The bio-toilet of claim 17, wherein, wherein the distance between the mixing device and the concave parts is about 1cm-3cm.

19. (Previously Presented) The bio-toilet of claim 18, wherein a support is provided on the bottom plate of the tank between the two concave parts for supporting the protuberant intersection.

20. (Cancelled)

21. (Previously Presented) The bio-toilet of claim 19, wherein the temperature control means further includes a holder for holding the insulation layer, one end of which is secured to the support and the other end is secured to the tank by a spring hook.

22. (Cancelled)

23. (Currently Amended) The bio-toilet of claim 12, wherein a conduit is ~~also provided within the tank~~ arranged at an underside of the top plate, the an inlet of which is communicated with said urinary inlet and ~~the an~~ an outlet of which is

adjacent to said drop inlet so as to guide human urine to the place where excrement drops.

24. (Previously Presented) The bio-toilet of claim 23, wherein a plurality of dispensing holes is provided at the bottom of the conduit.

25. (Previously Presented) The bio-toilet of claim 24, wherein the diameter of the dispensing holes increases gradually as they approach the outlet.

26. (Previously Presented) The bio-toilet of claim 12, wherein the top plate of the tank is assembled with the side plate of the tank in a removable manner with a heat-insulating element at the juncture between the top plate and the side plate.

27-29. (Cancelled)

30. (Currently Amended) A ~~treatment apparatus~~ method for decomposing excrement by using the bio-toilet of claim 12, comprising the steps of providing said reactor basin for containing sawdust and excrement, provided with said at least two concave parts;

providing said temperature control means for maintaining the temperature within the reactor basin at a predetermined range; and

providing said at least two mixing devices for mixing the raw material and excrement, matched with each concave part, and spaced apart from each other, each of which respectively has

a rotation shaft, and

a helical blade stirrer, provided on said rotation shaft by a plurality of spokes and divided into two parts, helical directions of which are reverse, wherein said helical blade stirrers of the mixing devices are overlapped partially.

31-34. (Cancelled)

35. (Currently Amended) The method of claim ~~34~~ 30, wherein the step of driving the mixing devices comprises driving the mixing devices in a reverse direction when the mixing devices complete one turn of rotation so as to sufficiently stir the excrement.

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36. (Previously Presented) The method of claim 35, wherein one turn of rotation for the mixing devices is completed by driving the mixing devices several times.

37-38. (Cancelled)

39. (Currently Amended) The method of claim 36, further comprising the step of driving the mixing devices when ~~the treatment apparatus comes into use~~ somebody enters the bio-toilet.

40. (Previously Presented) The method of claim 39, further comprising the step of driving the mixing devices after the usage for the treatment apparatus is completed.